

REMARKS

After the foregoing amendment, claims 1 – 19 and 21 - 22 are currently pending in this application. Claims 1 – 3 and 6 – 17 are amended without prejudice. New claims 21 – 22 are added. In the specification, a typographic error is corrected by amendment to the title. Applicants submits that no new matter is introduced into the application by these amendments.

Claim Rejections - 35 USC § 103

The Action rejects claims 1 – 19 as obvious over Patentschrift 326160.

Claim 1, as amended, recites:

A process for the preparation of water insoluble, bio-release molybdenum fertilizers which comprises heating molybdenum trioxide, one or more basic compound(s) of metal(s) selected from the group consisting of magnesium, calcium and sodium, and phosphoric acid to a temperature in a range of 250 to 350°C till a solid polyphosphate is obtained and finally obtaining the dried powder.

Underline emphasis added. The present application relates to a process for the manufacture of a water insoluble bio-release fertilizer of an anionic micronutrient, viz. , molybdenum. The processes disclosed produces **slow-releasing, water insoluble** molybdenum fertilizers, which will also show good bio-availability of the nutrients and thus provide an effective source of molybdenum for plants. It also provides magnesium and phosphorous as additional plant nutrients. Further the process is substantial improvement over previous processes for the production of

slow-release molybdenum fertilizers (bio-release molybdenum fertilizers have not been produced before).

The only types of slow-release fertilizer containing molybdenum, produced so far, are glass frits, which are produced at temperatures $>800^{\circ}\text{C}$. Patentschrift 326160 discloses a method for producing concentrated microfertilizer. As shown in the abstract attached to the February 24, 2009 Office Action, the synthesis of the product in Patentschrift 326160 involves heating the mixture up to 800°C to melt the phosphates, *i.e.*, production of molten polyphosphates. The melt is then poured into cooled steel plates and rapidly cooled to produce a glass.

In contrast, as recited in amended claim 1, the temperatures in the claimed process are much lower: "heating ... to a temperature in a range of 250 to 350°C " Energy requirements are, therefore, much lower. At this temperature the material will not melt and solidifies to a friable mass even when hot, thus avoiding the step of rapidly chilling the product. Moreover, reaction conditions are also much less corrosive and stainless steel vessels can be used instead of platinum. The product is also a much superior fertilizer, since it contains more Mo in a plant available form. The product is also non-toxic, non-polluting, easy to apply and exhibits increased fertilizer use-efficiency.

According to the Patentschrift 326160, sodium carbonate is an essential ingredient and the melt can form at 800°C only if the acid is neutralized with

sodium carbonate. However, claim 1 does not recite "sodium carbonate." Instead, sodium carbonate is an optional ingredient recited in particular dependent claims. In addition, according to those dependent claims, sodium carbonate can be replaced by magnesium carbonate, magnesium oxide, calcium carbonate, and/or calcium oxide.

It is further stated that the compound as produced by the process of **Patentschrift 326160** is **water-soluble, clear and glassy material**. The product produced by the claimed process is a **water-insoluble material and a friable powder**.

Based on the foregoing, Applicant believes that the 35 U.S.C. § 103(a) rejection is overcome and requests withdrawal of the same.

Claim Rejections - 35 USC § 112, second paragraph

The Action rejects claims 1 – 19 as and states that they are indefinite. Obviating amendments are made. Applicant believes the 35 U.S.C. § 112, second paragraph rejections are overcome and requests withdrawal of the same.

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Application No.: 10/567,425

Conclusion

If the Examiner believes that any additional matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicant respectfully submits that the present application, including claims 1 – 19 and 21 – 22, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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